

## ABSTRACT

Method and apparatus for the detection of microbes in liquids, in air and on non-living surfaces in which samples are exposed to electromagnetic radiation of specific energies capable of exciting various metabolites, cofactors and cellular and spore components, with the microbial cells to be sampled (and more specifically the excited metabolites, cofactors and/or other cellular components) contained therein emit fluorescence that can be measured. The signal from the background and scattered excitation signals is removed from the fluorescence signals of the microbial components, the relative fluorescent signals of the intrinsic microbial components are required to lie within physiological ranges, and the amplitude of the background-corrected fluorescence signals used to enumerate the microbe content in the sample.